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ABSTRACT

The purpose of this Bulletin is to list both what is being published in the world literature pertaining to solid waste management and being abstracted for input into the Solid Waste Information Retrieval System (SWIRS). SWIRS accessions cannot be all-inclusive; the holdings represent only that portion of the massive literature rapidly being generated that seems most significant. SWIRS holdings cover the period from 1964 to the present and include both periodical and nonperiodical literature. The new accessions published in the Bulletin are arranged alphabetically by author within appropriate subject categories. Each item furnishes the accession number, a descriptive sentence, and a complete bibliographic citation, including the author(s), title, source, pagination, and date of publication. (Author/JP)

ACCESSION BULLETIN

SOLID WASTE INFORMATION RETRIEVAL SYSTEM

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Solid Waste Management Office
U.S. ENVIRONMENTAL PROTECTION AGENCY

Volume 1 Number 1 January 1970

The purpose of this Bulletin is to show both what is being published in the world literature pertaining to solid waste management and being abstracted for input into the solid waste information retrieval system (SWIRS). SWIRS accessions cannot be all-inclusive; the holdings represent only the most significant portion of the massive literature rapidly being generated. This, however, is exactly what those concerned with solid waste management need to keep abreast of, and this can be done by reviewing the contents of each monthly Accession Bulletin.

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Stock Number 5502-0014

Hart, S. A. Agricultural wastes management in the future. Agricultural Engineering, 49(12):729,752, Dec. 1968. Three areas in which improved agricultural waste management will be necessary in the future include: livestock and their wastes, crop residue problems, and municipally generated wastes disposed of agriculturally.

[4729]

Wadleigh, C. H. Wastes in relation to agriculture and forestry. Miscellaneous Publication 1065. Washington, U.S. Department of Agriculture, Mar. 1968. 112 p. Major categories of entities which contaminate the environment include: radioactive substances, airborne dusts, sediments, plant nutrients, inorganic salts and minerals, infectious agents and allergens, chemicals, and heat.

[4765]

AGRICULTURAL WASTES—ANIMAL

Bell, D., J. Mamer, R. Peters, and O. D. Forker. Urbanization's impact on California's poultry industry. Pacific Poultryman, 68(2):12-14,62, 65, Feb. 1964. The shifts in California's egg industry, aspects of zoning as they effect poultrymen, the fly problems and factors affecting relocation of poultry farms are discussed.

[4755]

Pontin, R. A., S. H. Baxter. Wastes from pit production units. Water Pollution Control, 67(6):632-638, 1968. Methods for the disposal of increasing quantities of slurry from intensive pig production units on land and by composting are outlined.

[4717]

Wiley, J. S. Utilization and disposal of poultry manure. Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, 1969. 14 p. An extreme example of the problem of disposal of poultry manure is illustrated by Orange County, California.

[4757]

AGRICULTURAL WASTES—CROP

Clark, T. F., E. C. Lathrop. Corncobs - their composition, availability, agricultural and industrial uses. Peoria, U.S. Department of Agriculture Northern Regional Research Laboratory, Apr. 1953. 67 p. The structural composition and physical characteristics of corncobs are described and representative analyses of their chemical composition are presented.

[4751]

Clark, T. F., E. C. Lathrop. Dry grinding of agricultural residues a new industrial enterprise. Peoria, U.S. Department of Agriculture Northern Regional Research Laboratory, May 1952. 48 p. The physical and chemical characteristics of residues of commercial value are reviewed.

[4754]

Clark, T. F., E. C. Lathrop. Nut shells and fruit pits their composition, availability, agricultural and industrial uses. Peoria, U.S. Department of Agriculture Northern Regional Research Laboratory, Feb. 1953. 39 p. Annual production rates are given by state for various fruits and nuts and methods of disposition of shells and pits at food processing plants are described.

[4753]

Hough, J. H., H. T. Barr. Possible uses for waste rice hulls in building materials and other products. Bulletin 507, Baton Rouge, Louisiana State University, A & M.C. Agricultural Experiment Station, June 1956. 36 p. Research work was directed toward producing a concrete from rice hulls which could be used in block or monolithic form and perfecting a method of production which would enable the farmer to make his own cement-rice hull concrete by simple means.

[4752]

Johnson, R. D. New process transforms corn wastes to protein feed. Chemistry in Canada, 20(12):39-40, Dec. 1968. The controls necessary to give yeast a competitive growth advantage in the treatment of unpasteurized corn processing wastes were determined.

[4475]

New approach to disposal of cotton crop wastes. Agricultural Research, 17(6):13, Nov. 1968. An experimental machine promises to dispose of old-cropstalks and roots in cottonfields by cutting the stalks and removing the roots in a single operation, separating 88-97 percent of the roots.

[4829]

COLLECTION

How to dispose of a cooker. Engineer, 225(5849):353, Mar. 1968. A municipality half-solves its bulky refuse problem.

[4782]

New collection trucks solve sanitation problem. Public Works, 99(8):109, Aug. 1968. Garfield Heights, Ohio has been able to switch from biweekly to weekly refuse pickups due to the purchase of two 40-cu yd capacity Gar Wood (T-100) refuse-collection trucks.

[4798]

Quon, J. E., M. Tanaka, A. Charnes. Refuse quantities and frequency of service. ASCE Journal Sanitary Engineering Division, 94(SA2):403-420, Apr. 1968. A method for making comparisons based on information from similar neighborhoods and identical time periods was developed and used in the analysis.

[4852]

Ralph Stone and Company, Inc., Engineers. Field survey and analysis. In A study of improved refuse collection systems comparing one-man with multi-man crews, Los Angeles, June 1968. p. 3-44. These surveys were intended to enable evaluation of: collection time for various crew sizes and collection methods; travel time between collection stops; quantity of refuse/service stop; time and motion, employing motion picture films and television video tape recordings; and number and type of containers at each service stop.

[4761]

Ralph Stone and Company, Inc., Engineers. National survey of collection practice. In A study of improved refuse collection systems comparing one-man with multi-man crews, Los Angeles, June 1968. p. 44-63. A total of 234 cities in 42 different states, with a total population of 37,397,837, cooperated in the study by supplying system data.

[4762]

Saigon garbage situation serious too. Clean Air News, 2(5):19-20, Feb. 20, 1968. Saigon experiences garbage problems as sanitation workers strike.

[4832]

Star, S. Safety for refuse collection systems. In Proceedings; Fifth annual seminar & equipment show, San Francisco, California, Nov. 9-11, 1967. Governmental Refuse Collection and Disposal Association. p. 33-41. Common types of injuries and safety rules and practices are listed.

[4773]

Truitt, M. M., J. C. Liebman, C. W. Kruse. Conclusions and summary. In Terminal report of an investigation of solid waste collection policies, 2 v. Baltimore, The John Hopkins University Department of Environmental Health, Aug. 1968. p. 135-152. The model proving runs gave figures slightly above those actually found by the city but the differences were easily attributable to random number sequences and variations in the real system.

[4760]

Zaltzman, R. Refuse collection - tonnage survey. In Oklahoma City-County Health Department. Solid waste disposal countrywide study. Preliminary Report, Oklahoma City, C. H. Guernsey & Co. Consulting Engineers, 1967. p. 69. This survey consists of one table of refuse collection between November 29 and December 5 (year not specified) of five cities within Oklahoma County.

[4780]

COMPOST AND COMPOSTING

Hampl, A. Composting wastes in Czechoslovakia. Compost Science, 8(2): 27-29, Autumn 1967-Winter 1968. Sources of raw materials used in composting plants, manufacturing procedure, production data, and costs are discussed.

[4720]

Jeris, J. S., R. W. Regan. Progress report on cellulose degradation in composting. Compost Science, 9(1):20-2, Spring 1968. Mixed microbial populations were grown on pure cellulose media and the effect on microbial activity of temperature, pH, agitation rate, inorganic nutrients, and the presence of growth factors was studied.

[4730]

Johnson & Anderson, Inc. and Ducker Research Co. Economic feasibility study for refuse and sludge composting plant Riverview, Michigan. U.S. Department of Health, Education, and Welfare, Public Health Service, Nov. 1967. 24 p. A feasibility study of composting the solid wastes of Riverview and other communities comprising the Detroit Down River area was conducted.

[4759]

Mercer, W. A., W. W. Rose. Windrow composting of fruit waste solids. Compost Science, 9(3):19-21, Autumn 1968. Rice hulls, selected to serve as a dry material, were combined in open windrows with cannery waste and aerated by mechanically turning the compost mass.

[4725]

Moscow refuse makes good compost. New Scientist, 40(621):252, Oct. 31, 1968. U.S.S.R. introduces new compost producing plant using waste heat from burned refuse.

[4836]

Niese, G. Tests for determining the rotting degree of waste composts using a self-generated heating capacity. Information Sheet 17. Zurich, Switzerland, International Work Organization for Refuse Research, May 1963. 25 p. The influence of progressive rotting on the self-generated heating capacity of waste composts was studied in the laboratory of the Institute for Agricultural Microbiology of the Justus-Liebig University in Geissen.

[4746]

Nightsoil compost programme in rural areas in India. Compost Science, 8(2):15-17, Autumn 1967-Winter 1968. The program includes training of inspectors and farm leaders in the techniques of composting of farm waste and cattle manure, education of the general public, and implementation by loan facilities.

[4724]

Olds, J. Houston compost plant - second year report. Compost Science, 9(1):18-19, Spring 1968. Salvaging and composting procedures, costs, and marketing methods are reported.

[4815]

Olds, J. What's the best way to sell compost? Compost Science, 8(2):3-4, Autumn 1967-Winter 1968. Suggestions are made for the application of compost to improve lands and for the sale of compost by fertilizer companies.

[4728]

Pilot composting plant. Surveyor Municipal Engineering, 131(3967):51, June 15, 1968. A pilot plant in Cape Town, South Africa, treats 40 tons of refuse/day and conditions the product with digested sludge for compost.

[4783]

Refuse disposal plants for Thailand. Engineer, 226(5879):472, Sept. 27, 1968. Four refuse disposal plants are designed to turn organic refuse into compost while inorganic rejects are incinerated.

[4716]

DISPOSAL

Cannella, A. A. The refuse disposal problem. Public Works, 99(2):116, 118, 120, 121, Feb. 1968. Methods of refuse disposal in the U.S. are discussed including: open-pit disposal, sanitary landfill, incineration, salvage, and composting.

[4719]

Disposal problem outweighs judicial technicalities, rules New York Supreme Court. Clean Air News, 2(14):2-3, Apr. 23, 1968. In a case involving suits by two New York towns against a contracting company to prohibit the open burning of trees, stumps, and other debris, the New York Supreme Court ruled that the materials be immediately burned because of the urgency and complexity of the disposal problem.

[4801]

Disposing of domestic waste biologically. Science Journal, 4(2):21-22, Feb. 1968. A Swedish system, independent of the water and sewer networks, consists of a garbage chute from the kitchen and a toilet which requires no flushing, both of which are connected to a plastic decomposition chamber.

[4796]

Governmental Refuse Collection and Disposal Association. Proceedings; Fifth annual seminar & equipment show, San Francisco, California, November 9-11, 1967. 135 p. Proceedings of the seminar included talks on public health, safety practice, standards, collective bargaining, and proposed methods of disposal for San Francisco.

[4772]

Hamlin, C. H., N. Hume. Looking into the future in hauling and disposal methods. In Proceedings; Fifth annual seminar & equipment show, San Francisco, California, November 9-11, 1967, Governmental Refuse Collection and Disposal Association. p. 55-89. A proposed unit train disposal system for disposing of the San Francisco Bay Area's solid waste in a sanitary landfill in the desert is described in detail.

[4774]

Ledbetter, J. O. The complete waste treatment facility. Water Sewage Works, 115(R1968):R-132-R-138, Nov. 29, 1968. A complete waste treatment plant at one location for the solid, liquid, gaseous wastes from municipalities, small industries, and individuals would combine the municipal power plant and incinerator.

[4726]

Ralph Stone and Company, Inc., Engineers. Preliminary cost analysis. In Land reclamations by accelerated stabilization. First annual progress report to U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program City of Santa Clara, Los Angeles, Aug. 1967. p. 13-14. A preliminary cost analysis of several alternative methods of processing and disposing 250 tons/day of domestic refuse was made.

[4745]

Refuse in the pipeline. Surveyor Municipal Engineering, 132(3982):1-2, Sept. 27, 1968. The advantages of pipeline disposal are discussed.

[4785]

Revelle, R. Pollution and cities. Cambridge, Harvard University, Center for Pollution Studies, Dec. 1966. 22 p. The problems and solutions to the problems of air, water, and land pollution are discussed.

[4775]

Treatment and disposal of wastes. Public Cleansing, 58(2):62-64, Feb. 1968. The views of a group of experts who met in Geneva in Dec. 1966 to discuss problems on the treatment and disposal of wastes are contained in a WHO report.

[4859]

U.S. Senate. Committee on Public Works. Solid Waste Disposal Act Amendment of 1968. Report of the Committee on Public Works U.S. Senate to accompany S.3201. Report 1447. Washington, D.C., U.S. Government Printing Office, July 22, 1968. 33 p. Statements of various agencies, a listing of State/interstate solid waste planning grants, and changes in the existing law are included.

[4747]

DISPOSAL—COLLEGES AND UNIVERSITIES

Gray, A. C. Introduction and historical review. In Solid waste disposal at State University of New York, Albany campus. Troy, Rensselaer Polytechnic Institute, Aug. 1968. p. 1-3. A study was made under a Public Health Service Training Grant to analyze present methods of refuse collection and disposal on the Albany campus, to investigate all feasible alternate methods, and to make a final recommendation for the best disposal plan for the campus.

[4734]

Gray, A. C. Existing methods for refuse handling at the State University of New York, Albany Campus. In Solid waste disposal at State University of New York, Albany campus. Troy, Rensselaer Polytechnic Institute, Aug. 1968. p. 4-17. Present and projected amounts of type A and type B refuse generated on campus is revealed.

[4735]

Gray, A. C. Methods of refuse collection and disposal at other colleges and university campuses. In Solid waste disposal at State University of New York, Albany campus. Troy, Rensselaer Polytechnic Institute, Aug. 1968. p. 18-51. Results of a survey of 60 colleges with a student population of 5,000 or more are presented and tables give general information on the colleges, garbage disposal methods, rubbish disposal methods, and refuse quantities and costs.

[4736]

Gray, A. C. Conclusions and recommendations. In Solid waste disposal at State University of New York, Albany campus. Troy, Rensselaer Polytechnic Institute, Aug. 1968. p. 136-140. The need for further studies of waste disposal methods for campuses is expressed.

[4737]

DISPOSAL—HOSPITALS

Disposables are dangerous. Pennsylvania Medicine, 71(3):49, Mar. 1968. Methods of disposing of used syringes, needles, drug samples, and other medical supplies are reviewed.

[4800]

GRINDING

Bearint, D. E. Densification and size reduction. In Status of unit operations and processes for solid-waste disposal. Final Report. Columbus, Battelle Memorial Institute, Feb. 19, 1967. p. 3-22. U.S. literature sources were surveyed to document the state of the art of densification and size-reduction equipment as applied to the disposal of solid wastes.

[4763]

New pulverization machinery by A.B.C. Public Cleansing, 58(5):243-246, May 1968. The machine utilizes a horizontal feed arrangement, a generous feed entry which will enable bulky wastes to be reduced, and the converging track pre-crusher and disintegration principle.

[4722]

Poole plumps for pulverization. Public Cleansing, 58(7):357-360, July 1968. Poole, England, has a new pulverization plant to produce homogeneous landfill material that requires no covering.

[4786]

Pulverization—sense or nonsense? Public Cleansing, 58(9):486-489, Sept. 1968. The claim is made that pulverization does not contribute to effective incineration and does not greatly improve a properly run, controlled landfill operation.

[4789]

Reeves, E. G. Refuse disposal—pulverization. Public Cleansing, 58(4):156-160, Apr. 1968. The part that pulverization can play in the disposal of refuse by sanitary landfill, composting, and incineration is discussed.

[4804]

Tip space problem solved at Wallingford. Surveyor Municipal Engineering, 131(3950):76, Feb. 17, 1968. A pulverizer using the wet rotation principle causes rapid breakdown of original material in forty-five minutes.

[4828]

INCINERATION

Pomp, R. L. The use of electrostatic precipitators on municipal incinerators. Journal of the Air Pollution Control Association, 18(12):803-809, Dec. 1968. Baffled spray chambers, spray cooling chambers, wet scrubbers, and mechanical collectors are described as well as the electrostatic precipitator installations in Paris, Munich, and Birmingham, England.

[4806]

Diamant, R. M. E. Economics of refuse incineration. Air Conditioning, Heating and Ventilating, 65(9):18, Sept. 1968. Experiences with the use of refuse incinerators for district heating indicate that it is not possible to make the sale of heat pay for the operating costs of the incineration plant.

[4822]

Diamant, R. M. E. Refuse burning for district heating. Air Conditioning, Heating and Ventilation, 65(8):18, Aug. 1968. Specially designed furnaces and use of auxiliary fuel are recommended because of the problems involved in using refuse as fuel.

[4821]

Franzke, H. H. The designing of incinerators - illustrated by an example of a waste incineration-remote heating plant. Elektrizitätswirtschaft, 67(18):521-7, Aug. 1968. The detailed planning and designing of incinerators is illustrated by the example of the city of Iserloh in West Germany. (Text-German)

[4862]

Houston orders cleanup: new techniques used. Chemical Engineering, 75(6):96-7, Mar. 11, 1968. An incinerator designed for the treatment of waste oil and the use of refinery waste to nourish a secondary treatment facility are described.

[4817]

Incineration for small communities—ask Shippensburg. Pennsylvanian, 8(3):12,13,39, Mar. 1969. The incinerator, which has a rotating bowl which tumbles and mixes the burning wastes for more efficient burning, is expected to be able to handle 72 tons/day of refuse and to serve 32,000 to 35,000 people.

[4846]

Incinerator prevents air pollution. Materials Reclamation Weekly, 112(25):16, June 22, 1968. The Brulé incinerator is claimed by the British manufacturers to burn anything wet or dry, without smoke, and to be within the limits of the Clean Air Act.

[4723]

Japanese incineration system for household refuse. Materials Reclamation Weekly, 112(26):11, June 29, 1968. Japan inaugurates a multi-furnace, 2,000 tons/day automated refuse incinerator.

[4841]

Law, D. K. Direct incineration—aesthetic design of plant. Public Cleansing, 58(12):647-655, Dec. 1968. Designs which honestly express the functions of the building will be aesthetically the most satisfactory.

[4826]

McLean, N. Gas cleaning plant and its application to refuse disposal. Public Cleansing, 58(3):106-113, Mar. 1968. Atmospheric pollution regulations in Great Britain with regard to municipal incinerator plants and the main factors influencing the generation of dust in continuous stoker incinerators are considered.

[4802]

Milan trims garbage costs with power generating unit. Electrical World, 170(14):32, Sept. 30, 1968. The city is currently burning 360 to 540 tons of rubbish/day in its first plant, providing about one-third of the city's own electric power needs.

[4853]

NAPE member designs low-cost incinerator. National Engineer, p. 8-9, Jan. 1968. A patent was received on the design of a municipal incinerator that is claimed to be 92 to 97 percent smoke free.

[4820]

New design furnace burns ten tons per hour. Surveyor Municipal Engineering, 132(3973):26-29, July 1968. A new refuse incineration plant, incorporating a high efficiency full automatic Heenan-Nichols continuous rocker grate which accepts unsorted refuse, is being built at Sutton-Coldfield, England.

[4818]

New driftwood incinerator for New York harbor. Public Works, 99(9):99-100, Sept. 1968. An open pit type incinerator with controlled overfire air is being constructed to replace open burning on two large incinerator barges anchored in the upper bay.

[4824]

Nowak, F. Corrosion problems in incinerators. Combustion, 40(5):32-40, Nov. 1968. Use of refuse as fuel for steam generation plants engenders many problems including heavy deposits, more frequent outages and gas-side corrosion of heating surfaces.

[4865]

Refuse—the new fuel of the 1980's? Surveyor Municipal Engineering, 132(3977):20-21,35, Aug. 24, 1968. A combined refuse incinerator and district heating plant, which will have sufficient thermal output to satisfy the needs of an industrial community of 40,000 is to be built in Nottingham.

[4731]

Walter, L. Steam distribution system of Paris and the incineration plant at Issy-les-Moulineaux. Public Cleansing, 58(1):25-32, Jan. 1968. The incineration plant at Issy-les-Moulineaux provides waste incineration with waste heat recovery.

[4854]

INDUSTRIAL WASTES

Bader, A. J. Complete waste treatment system designed for new foundry. Plant Engineering, 22(8):118-120, Apr. 1968. A complete waste treatment system was designed for an iron castings plant based on information gathered on quality and quantity of anticipated waste and water conservation.

[4863]

Brown, R. L. Which dust collector is right for you? Rock Products, 71(2):76-80, Feb. 1968. Specifications and design criteria of dust collectors are given.

[4838]

Coleman, L. W. and L. F. Cheek. Liquid waste incineration. Chemical Engineering Progress, 64(9):83-87, Sept. 1968. The design of an incinerator for residues from chemical processes is described and illustrated.

[4733]

Deep well disposal of problem wastes. Factory, 126(4):148-150, Apr. 1968. Deep well disposal of steel mill pickle liquors, acids, brine wastes, and sludge is discussed.

[4823]

Evanson, A. E. Power or pollution—The use of lumber industry waste for electric power generation. Seattle, Oregon, Cornell, Howland, Hayes, and Merryfield, 1964. 7 p. The use of lumber industry waste for the generation of electric power is suggested as one possible solution for eliminating the air pollution problem from this source.

[4756]

Fire fighting contractors level mountains of burning coal waste. Construction Methods, 50(3):64-7, Mar. 1968. One contractor extinguished coal waste fires in Pennsylvania with jet streams of water, drag-lines, scrapers, and dozers while another bore horizontal holes in the material, shot it, soaked it with water, and then dozed it away.

[4795]

Griffiths, J. Control and treatment of trade effluents. Surveyor Municipal Engineer, 131(3956):22-25, Mar. 1968. Necessary control criteria of trade effluents entering public sewers is discussed.

[4840]

Henningson, Durham and Richardson, Inc. Survey of solid wastes. In Collection and disposal of solid waste for the Des Moines Metropolitan Area. A systems engineering approach to the overall problem of solid waste management. An Interim Report, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, 1968. p. 2(1-43). A study of the nature and magnitude of wastes from various commercial and industrial firms is presented.

[4739]

Marshall, P. G., W. L. Dunkley, and E. Lowe. Fractionation and concentration of whey by reverse osmosis. Food Technology, 22(8):37-38, Aug. 1968. Data indicated the feasibility of using the membrane-separation technique to concentrate whey and to remove most of the monovalent salts.

[4727]

Parker, C. D. Food cannery wastes treatment. Food Technology in Australia, 20(3):114-118, Mar. 1968. Treatment facilities are described incorporating the use of an oxidation ditch in the treatment of cannery wastes, the treatment of partially purified lagoon effluents by the oxidation ditch process and the use of anaerobic lagoons to treat fruit cannery wastes at heavy BOD loadings without odor.

[4850]

Processing waste meat products. Food Processing Marketing, 37(444):345-346, Sept. 1968. A plant has been designed to treat slaughterhouse waste and condemned meat for the production of both purified fat and high grade meal for animal feed by the Centrimeal process.

[4732]

LITTER

Costs $25,000,000 yearly to remove highway litter. Public Health News, 49(3):47, Mar. 1968. The National Litter Index, compiled from vehicle miles traveled on primary state highways and the annual cost of cleaning up litter from these thoroughfares, stands at 109.6 for 1967.

[4794]

Last word on disposable bottles. New Scientist, 39(614):532, Sept. 12, 1968. Dr. Samuel Hulbert of Clemson University, South Carolina has been given a grant by the U.S. government to develop his invention of a bottle that disposes of itself after discard by turning into water.

[4790]

The self-destroying beer bottle. New Scientist, 39(605):63, July 11, 1968. A Swedish company has produced a container made of rigid PVC and paper which, when thrown away, can be decomposed by sunlight and acids in the soil.

[4787]

MANAGEMENT OF SOLID WASTE SYSTEMS

Lepkowski, W. C. Environment. Chemical Engineering News, 46(11):9A-17A, Mar. 11, 1968. The environment profile and problems of St. Louis, Missouri, are cited to emphasize the need for a systematic approach to total environmental management.

[4797]

Ludwig, H. F., R. J. Black. Report on the solid waste problem. ASCE Journal of the Sanitary Engineering Division, 94(SA2):355-370, Apr. 1968. The need for investigation in all areas of solid wastes problems is described and management of these problems is discussed.

[4855]

Per capita waste generation near thirty-five pounds a day. Chemical Engineering News, 46(4):16, Jan. 22, 1968. To handle these wastes, numerous techniques are applied, none of which is completely satisfactory.

[4830]

Schultz, G. P. Managerial decision making in local government: facility planning for solid waste collection. Cornell Dissertations in Planning, Ithaca, Cornell University, Jan. 1968. 263 p. The purpose of this study is to discover a rationale for facility planning for a solid waste collection system and to devise an operational decision model consistant with the rationale.

[4770]

Shelton, H. J. A multiple purpose waste disposal system for minimum pollution. Pennsylvanian, 8(3):25, Mar. 1969. A system of sanitary landfill, incineration, biochemical conversion and salvage is suggested for the disposal of solid wastes, operated by a private enterprise and offered to a regional district of communities in the form of a private utility under long term contract.

[4849]

RECLAMATION AND UTILIZATION

Does advanced plant waste non-ferrous scrap? Waste Trade World, 112(8): 11, Feb. 24, 1968. It is suggested that non-ferrous metals be recovered from the National Research and Development Corporation sponsored system of producing fertilizer from household waste. [4788]

Fly ash waste gains value from new process. Water Pollution Control, 106(11):40, Nov. 1968. Ontario, Canada develops a process to convert fly ash into light weight aggregates for concrete industry. [4833]

Hamburg, F.C. Economically feasible alternatives to open burning in railroad freight car dismantling. Paper 68-179, Bethesda, Booz, Allen Applied Research, Inc., June 1968. 25 p. A high pressure water jet system and special hood incinerator for railroad car salvaging were studied. [4758]

Harvey, E. H., T. M. Devine. Bark fines removal and recovery system. Pulp and Paper Magazine of Canada, 69(23):71-76, Dec. 6, 1968. A system is described to accomplish the two-fold objective of mechanically recovering a large percentage of bark fines from the wet debarking operation and allowing recirculation and reuse of partially treated effluent to the barking drums. [4860]

How to save sulfate: convert it to cash. Chemical Week, 102(3):64-65, Jan. 20, 1968. India uses Nissau-Monsanto process to produce ammonium sulfate from gypsum. [4835]

Japanese companies convert leather scraps into a material that can compete with synthetics. Waste Trade Journal, 64(7):7, Feb. 24, 1968. Leather scraps are chemically reduced to a pulp which is sorted for fibers of a certain length and pressed into continuous sheet. [4813]

Joint destructor plant scheme. Waste Trade World, 112(7):4, Feb. 17, 1968. A plan for a joint refuse disposal scheme is to be considered by three local councils in Great Britain in order to purchase more sophisticated equipment for separating paper, rags and metals. [4781]

Junk yard goldmine? Industrial Research, 10(7):20, July 1968. The Department of Interior's Bureau of Mines regards trash heaps as valuable sources of uranium, yttrium, aluminum, iron, zinc, copper, lead, and tin. [4816]

Lightweight aggregate development. Materials Reclamation Weekly, 112(25):16-17, June 22, 1968. Lightweight aggregate manufactured from coal waste and fly-ash attracts international attention.
[4834]

Qureshi, Q.A., E. M. Dubash. Potential fibrous raw material for the manufacture of paper. Pakistan Journal of Science, 19(1 and 2): 67-72, Jan./Mar. 1967. A feasibility study of the potential use of bagasse and junta for paper making was made.
[4825]

Reclamation industry 'more important than ever'. Waste Trade World, 112(13):4-5, Mar. 30, 1968. Problems of air pollution and its control are covered.
[4839]

Secondary fiber users hold first annual conference. Paper Trade Journal, 152(45):76, Nov. 4, 1968. Technical sessions at the Secondary Fiber Pulping Conference, held in Dayton, Ohio on October 23-25, were devoted to: sludge treatment, recovery and re-use of effluent in the mill, and utilization of sludge.
[4827]

There's money in those fallen leaves. Public Cleansing, 58(9):458, Sept. 1968. Methods are suggested for making mold from collected leaves to be used as humus.
[4784]

Ultrasonics free fibres from waste paper. New Scientist, 38(6):522, June 6, 1968. The ultrasonic 'hydrofibrator' has been designed to remove printing ink, fillers and other non-homogenous material such as plastics and lumps of metal from useful fibres without seriously degrading them.
[4814]

Used tires reused. Science News, 94(14):598, Dec. 1968. Discarded tires are being studied at the Coal Research Center of the U.S. Bureau of Mines in Pittsburgh, where valuable chemicals are being distilled from them as well as gas for heat and power.
[4791]

The waste-high crisis. Modern Packaging, 41(11):102-107, Nov. 1968. Recycling of wastes is viewed as the ultimate answer to the problem either through use of the heat value of solid waste or through re-use of the packaging material itself.
[4808]

Waste paper use in Russia. Waste Trade Journal, 64(21):10, May 31, 1968. The Soviet economy is suffering such a severe shortage of paper the State Committee for Materials and Technical Supplies has announced plans to set up a waste paper collecting campaign.
[4793]

Wool waste economics in carding, rag-grinding and blending, etc. Textile Manufacturer, 94(1119):107, Mar. 1968. A new system for reprocessing waste wool is described.

[4842]

RECLAMATION AND UTILIZATION—ABANDONED AUTOMOBILES

Alpiser, F. M. Air pollution disposal of junk autos. Air Engineering, 10(11):18-22, Nov. 1968. Automobile incinerators and fragmentizers and experimental pyrometallurgical processes are considered.

[4811]

Colorado Legislative Council. Solid waste disposal. Report to the Colorado General Assembly. Research Publication 129, Denver, Colorado Legislative Council, Dec. 1967. 46 p. Findings on automobile body disposal, junkyard control in Colorado, and refuse disposal (both in general and in Colorado specifically) are included.

[4778]

Derrickson, G. F. Motor vehicle abandonment in U.S. urban areas. Nature and extent of the problem, and adequacy of present methods of handling it. Washington, U.S. Department of Commerce Business and Defense Services Administration, Mar. 1967. 51 p. Questionnaires were sent to 395 cities as part of a study to provide empirical information on the extent of motor vehicle abandonment in urban areas of the U.S.

[4766]

Vehicle burning centres an urgent need. Materials Reclamation Weekly, 113(8):15, Aug. 24, 1968. Car burning centers are suggested for worked-out quarries in Scotland.

[4807]

REGIONAL AND URBAN STUDIES

Black and Veatch Consulting Engineers. Solid waste disposal study for Washington Metropolitan Region. Kansas City, Oct. 1967. v. p. The study covered current status of solid wastes programs in the area, refuse quantities, alternative disposal methods, land requirements for disposal, potential disposal sites, transportation, administrative and financing considerations, and sediment disposal.

[4767]

Bower, B. T., G. P. Larson, A. Michaels, W. M. Phillips and R. T. Anderson. Waste management. Generation and disposal of solid, liquid and gaseous wastes in the New York Region. A report of the second regional plan. New York, Regional Plan Association, Inc. Mar. 1968. 107 p. A review is presented of the present sources and amounts of wastes and these figures are used to predict the wastes to the year 2000 considering various alternatives of management and regulation.

[4768]

Caddy, O. W. Is there a need for solid waste planning. Pennsylvanian, 8(3):14,15,42,43, Mar. 1969. Disposal technology in Pennsylvania and provisions of the Solid Waste Management Act are covered.

[4847]

Gilbertson, W. E. Pennsylvania's action program in solid waste. Pennsylvanian, 8(3):10,32, Mar. 1969. Pennsylvania's statewide survey of 750 disposal areas is discussed and the provisions of the Solid Waste Management Act are reviewed.

[4844]

Hamlin, G. H. A practical solution of the San Francisco Bay Area. Compost Science, 8(2):19-21, Autumn 1967-Winter 1968. The Desert Disposal Plan is a systems approach that includes the collection, transportation, and disposal of solid wastes, and the restoration of land.

[4819]

Henningson, Durham & Richardson, Inc. General. In Collection and disposal of solid waste for the Des Moines Metropolitan Area. A systems engineering approach to the overall problem of solid waste management. An Interim Report, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, 1968. p.1 (1-12). The study area encompasses 430 square miles and includes twelve cities and parts of two counties.

[4738]

Hughes, G. M. Selection of refuse disposal sites in Northeastern Illinois. Environmental Geology Notes 17, Urbana, Ill., Illinois State Geological Survey, Sept. 1967. 26 p. Geologic environments were evaluated in terms of results of studies on refuse disposal and groundwater contamination in dumping sites.

[4748]

Ingram, W. T., F. P. Francia. Introduction. In Quad-City solid wastes project. An Interim Report June 1, 1966 to May 31, 1967, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program, 1968. p.1(1-19). The cities of Clifton, Passaic and Patterson and the township of Wayne in New Jersey cooperated in commissioning this study to determine means for administering and [illegible]ting a regionalized disposal system.

[4740]

Ingram, W. T., F. P. Francia. Investigation of existing disposal facilities. In Quad-City solid wastes project. An Interim Report June 1, 1966 to May 31, 1967, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program, 1968. p.6(1-10). Private landfills were investigated, six plants were examined and extensive technical, construction, and operating costs data were obtained.

[4741]

Ingram, W. T., F. P. Francia. Status of the formation of a legal regional authority. In Quad-City solid wastes project. An Interim Report June 1, 1966 to May 31, 1967, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program. 1968. p. 7(1-5). The participating communities received a Federal grant from the Public Health Service for the carrying out of this study to develop a means for constructing, administering and operating a regionalized solid wastes disposal establishment.

[4742]

Ingram, W. T., F. P. Francia. Discussion of information. In Quad-City solid wastes project. An Interim Report June 1, 1966 to May 31, 1967, Cincinnati, U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program. 1968. p. 8(1-5). A study is recommended to consider each possible disposal method in detail including supporting technology and air cleaning devices necessary.

[4743]

Jones, Henry and Williams, Engineers. Solid waste study collection and disposal plant. Toledo, Jan. 1967. 103 p. A study of Kalamazoo County, Michigan was undertaken to provide a solid waste disposal plan for the area.

[4771]

Licking County Regional Planning Commission. A refuse disposal study for the Licking County Region. Regional report 2, Licking County, Ohio, Licking County Regional Planning Commission, Mar. 1967. 89 p. The significant problems of refuse disposal in Licking County, Ohio concern refuse quantity and quality, collection problems, disposal methods and legal and financial difficulties.

[4764]

Neronburg, G. A. Pennsylvania--pioneer in solid waste management. Pennsylvanian, 8(3):11,44, Mar. 1969. Pennsylvania's three-year solid waste study and Solid Waste Management Act are reviewed.

[4845]

Quigley, J. M. Solid waste--a solid problem. Pennsylvanian, 8(3):16,17, 49, Mar. 1969. The various disposal techniques considered are: open burning, burying, ocean disposal, sanitary landfill, salvaging, composting, pyrolysis, and rail haul to abandoned strip mines.

[4848]

Rogers, P. A., D. R. Andres. Status of solid waste management. California solid waste planning study. Interim Report, v. 1. Sacremento, California State Department of Public Health, Sept. 1968. v. p. The report contains findings on an extensive survey on solid waste: production, administration and control, collection, disposal, planning and environmental effects.

[4769]

Zaltzman, R. Oklahoma City-County Health Department. Solid waste disposal countywide study. Preliminary Report, Oklahoma City, C. H. Guernsey and Company Consulting Engineers, 1967. 69 p. The major communities of the Oklahoma County were sampled and a working model was developed and tested, with recommendations and cost estimates made with the findings.

[4779]

SAFETY

Van Beek, G. Employee safety in the solid wastes industry. Public Works, 99(12):74, Dec. 1968. A cooperative study established that: work injury frequency rate among employees of the solid waste industry is nearly 900 percent greater than the average of all industry in the U.S.; the severity rate is 300 percent greater than that of all industrial employees; private contractors are spending a greater percentage of their gross income on accident costs than they are receiving in profits.

[4721]

SANITARY LANDFILL

Bevan, R. E. The general management of a controlled tip. In Notes on the science and practice of the controlled tipping of refuse, London, The Institute of Public Cleansing, 1967. p. 54-71. Preparation, maintenance, stripping esthetics, and future uses of sites are discussed.

[4750]

Bevan, R. E. Notes on the science and practice of the controlled tipping of refuse. London, The Institute of Public Cleansing, 1967. 216 p. The methods of controlled tipping are sometimes complicated and require expert knowledge and experience by a number of specialists as well as diligent attention to the everyday management at the site.

[4749]

Corner, J. T. Waste tip stabilization in the Ruhr. Colliery Guardian, 216(5576):250-253, Mar. 1, 1968. A system used in Germany for selection of sites for mining area waste, construction of the tip and planting of the resulting mound is described.

[4812]

Johnson, W. H., B. F. Bjornson. The sanitary landfill. Training guide. Atlanta, U.S. Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center, 1962. 20 p. Important criteria for an effective sanitary landfill are furnished.

[4776]

Johnson, W. H., B. F. Bjorkson. Comparison of sanitary landfill and incinerator. In The sanitary landfill. Training guide, Atlanta, U.S. Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center, 1962. p. 13-15. Capital costs, operation and maintenance are compared.

[4777]

New wastepaper depot at Hyde. Public Cleansing, 58(7):321-322, July 1968. A new sanitary landfill site for Hyde Borough, England, and a depot for receiving and handling wastepaper, is described.

[4815]

Pennsylvania studying landfills. Clean Air News, 2(9):1-2, Mar. 19, 1968. Lysimeter aids sanitary landfill studies.

[4837]

Ralph Stone and Company, Inc., Engineers. The sanitary landfill site. In Land reclamation by accelerated stabilization. First annual progress report to U.S. Department of Health, Education, and Welfare, Public Health Service, Solid Wastes Program. City of Santa Clara, Los Angeles, Aug. 1967. p. 3-5. A demonstration project is being accomplished at Santa Clara's 73.2 acre sanitary landfill.

[4744]

Remson, I., A. A. Fungaroli, and A. W. Lawrence. Water movement in an unsaturated sanitary landfill. ASCE Journal of the Sanitary Engineering Division, 94(SA 2):307-317, Apr. 1968. Moisture routing methods based upon the equation of continuity are extended to provide an approximate method for predicting vertical moisture movement through and out of a sanitary landfill.

[4856]

Stone, R., M. Israel. Determining effects of recompaction on a landfill. Public Works, 99(1):72-73, Jan. 1968. Settlement markers have been placed on a recompacted cell and other cells to determine relative settling rates.

[4718]

SLUDGE TREATMENT AND DISPOSAL

Brooks, R. B. Heat treatment for activated sludge. Water and Pollution Control, 67(5):592-601, 1968. One percent solids surplus activated sludge was used to determine the effect of initial solids concentration, temperature, heating time and presence of oxygen; to examine various physical and biological methods for treating the liquor produced; and to evaluate the residual non-biologically degradable compounds.

[4810]

Coackley, P. Sludge dewatering and disposal. Institution of Civil Engineers. Proceedings, 41:623-626, Nov. 1968. Sludge dewatering, the chemical nature of the sludge particle, engineering aspects of treatment plant design, and final disposal of sludge on land are discussed.

[4799]

Dean, R. B. Ultimate disposal of waste water concentrates to the environment. Environmental Science and Technology, 2(12):1079-1086, Dec. 1968. The effect of ocean disposal and sludge utilization on the environment are considered.

[4857]

Koenitzer, G. H. Paper mill sludge dewatering. TAPPI, 51(12):53A-56A, Dec. 1968. The vacuum filter, centrifuge and press are considered for dewatering of sludge.

[4809]

Myatt, A. A. Assessment and selection of methods of sludge treatment and disposal. Effluent and Water Treatment Journal, 8(10):504-511, Oct. 1968. Processes are examined in light of capital costs and sludge properties.

[4851]

Sludge freezing plant. Journal of Refrigeration, 11(5):114, May 1968. The new plant, designed to handle 6,000 gallons/24 hour of sludge, will operate on the principle that slow freezing of the sludge causes a breaking down of its colloidal structure, greatly accelerating the precipitation of the insoluble matter in the solution.

[4831]

Swanwick, J. D., A. M. Bruce, K. G. Vandyke. Inhibition of sludge digestion by synthetic detergents. Water and Pollution Control, 67(1):91-99, 1968. The inhibitory effect is examined and experiments dealing with various concentrations of detergents detail the effect of the detergents.

[4803]

STORAGE

Argentina/Bagging garbage in PE. Modern Packaging, 42(7):56, July 1969. Argentina adopts polyethylene bags for garbage in a test run of six months.

[4843]

Can we reduce the waste in trash disposal? Safety Maintenance, 135(3):43-44, Mar. 1968. Use of a containerized, disposable paper refuse sack for waste disposal is described.

[4861]

Paper sacks are replacing garbage cans. Waste Trade Journal, 64(16):56, Apr. 27, 1968. The use of disposable paper refuse sacks in Europe and the United States, for domestic use as well as industrial and commercial use, is reviewed.

[4792]

STREET CLEANING

Fox, N. A. Street sweeping-methods and incentive. Public Cleansing, 58(2):87-98, Feb. 1968. Suction vs mechanical sweepers, work load and route efficiency are discussed.

[4858]

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